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REMARKS

This response is intended as a full and complete response to the Office Action dated October 1, 2003. In view of the amendments and the following discussion, the Applicants believe that all claims are in allowable form.

IN THE SPECIFICATION

Paragraph [0014] of the specification has been corrected to properly describe Figure 3. The Applicants submit that no new matter has been added by this correction.

IN THE DRAWINGS

Figure 1 of the application has been amended to correct errors in the placement of lead lines. Specifically, lead lines for the glass substrate 32 and the spacers 30, as described in paragraph [0027] and the gap 44, as described in paragraph [0031] have been corrected to point at the appropriate portion of the drawing. Replacement of Figure 1 is attached. A complete set of replacement Figures will be sent to the official draftsman in a separate letter.

DRAWING OBJECTIONS

The drawings stand objected to by the Examiner. Specifically, the Examiner indicates that Figure 3 must be labeled prior art. The Applicants respectfully disagree. Figure 3 is a side view of one embodiment of an outer spacer which, in concert with the inner spacer, comprises the shelf of the present invention, as described in the specification. *Specification*, ¶ [0032]. As such, the Applicants submit that Figure 3 should not be labeled prior art. Accordingly, the Applicants respectfully request that the objection be withdrawn.

CLAIM REJECTIONS

35 U.S.C. §103(a) Claims 1-4, 8-11, 13-15, and 17-21

Claims 1-4, 8-11, 13-15, and 17-21 stand rejected as being unpatentable over Japanese Patent No. 2121347 (Hereinafter *Okayama*) in view of United States Patent No. 5,520,473, issued May 28, 1996, to Durham (hereinafter *Durham*), Japanese

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Patent Publication No. 08017753 (Hereinafter *Tokyo Electron*), and Japanese Patent Publication No. JP411130249A (Hereinafter *Suzuki*). In response, the Applicants have amended claims 1 and 8 to more clearly recite aspects of the invention.

A. Claims 1-4

Claims 1-4, as amended, recite limitations not taught or suggested by the cited references. *Okayama* teaches a wafer positioning device for orienting a wafer prior to conveying the wafer to the next processing step. The wafer positioning device includes a base table 1, a support board 4 coupled to the base table in a rotatable manner via a pivot 5. The support board 4 has support balls 7 that support the back side of a wafer. *Okayama* does not teach or suggest a ball that is at least one of coated or plated, as disclosed in claim 1.

Durham teaches a ball point pen. Such a teaching makes *Durham* an improper reference to base a rejection over the claimed invention. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); *MPEP* 2141.01(a). The Applicants submit that a ball point pen is neither "in the field of Applicant's endeavor" nor "reasonably pertinent to the particular problem" solved by the present invention. Ball point pens are not in the same field of art as semiconductor support structures. Moreover, as *Durham* does not teach or suggest using a ball point pen to support anything, *Durham* is not reasonably pertinent to a problem with which the Applicant's were concerned when contemplating solutions to a semiconductor substrate support and would not have logically commended itself to the inventor's attention. See also, *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem"). Therefore, the Applicants respectfully submit that *Durham* may not be relied upon as prior art with respect to the present invention. Furthermore, *Durham* does not teach or suggest a coated or plated ball as claimed in claim 1.

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The Examiner asserts that *Tokyo Electron* discloses the use of a modified ball. The Applicants respectfully disagree. *Tokyo Electron* discloses a mounting jig having vertical struts including support parts, above which wafers are held by ball-shaped support members. The ball-shaped support members comprise a single crystal of Si embedded in the support parts of the vertical struts. *Tokyo Electron* does not disclose a ball rotatably disposed on a ball support surface in a socket wherein the ball is at least one of coated or plated, as claimed in claim 1. Furthermore, *Tokyo Electron* teaches away from coating or plating the ball as the support element is fabricated from a single crystal of the same material as the wafer (i.e., Si).

Suzuki discloses a substrate carrying device having support rollers for carrying a large substrate. *Suzuki* does not teach or suggest a ball that is at least one of coated or plated, as claimed in claim 1. Therefore, as *Durham* does not relate to support structures and does not teach or suggest a coated or plated ball support, *Tokyo Electron* teaches away from a coated or plated, rotating ball support, and *Suzuki* does not teach or suggest a coated or plated ball support, the Applicants submit that there is no motivation to combine the references in any manner that yields the claimed invention.

Furthermore, as none of the references teach or suggest a rotatable ball that is at least one of coated or plated, no reference may be combined with any other combination of references to yield the subject matter of claim 1. Therefore, the combination of *Okayama*, *Durham*, *Tokyo Electron*, and *Suzuki* does not teach or suggest the limitations of claim 1, as amended, and all claims depending therefrom.

Thus, the Applicants submit that independent claim 1 and claims 2-4 depending therefrom are patentable over *Okayama* in view of *Durham*, *Tokyo Electron*, and *Suzuki*. Accordingly, the Applicants respectfully request the rejection be withdrawn.

B. Claims 8-11 and 13-21

Claims 8-11 and 13-21 recite limitations not taught or suggested the cited references, alone or in combination. *Okayama* is discussed above. *Okayama* does not disclose a chamber body having at least one substrate access port or at least one support member coupled to an interior portion of the chamber body as recited in claim

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8, as amended. *Durham*, also discussed above, is not an applicable reference. However, even assuming *arguendo* that *Durham* is applicable, *Durham* also does not disclose a chamber body having at least one substrate access port or at least one support member coupled to an interior portion of the chamber body as recited in claim 8, as amended.

Tokyo Electron discloses a chamber body. However, *Tokyo Electron* teaches away from the use of a rotatable ball to support the wafer. As discussed above, *Tokyo Electron* teaches a single crystal of Si to form the ball-shaped support member which is embedded in the support parts of the vertical struts. Furthermore, *Tokyo Electron* teaches that a preferred embodiment of the invention is a pillar or other flat-topped shape as shown in drawings 6 and 7. Thus *Tokyo Electron* teaches away from a ball disposed on a support member, the ball rotatably adapted to support a glass substrate as recited in claim 8, as amended.

Suzuki discloses a wafer carrying device including rollers for moving a substrate through a processing system. *Suzuki* does not disclose a chamber body, at least one support member coupled to an interior portion of the chamber body, and one or more balls disposed on the support member and rotatably adapted to support the substrate, as recited in claim 8, as amended. Therefore, as none of the references teach or suggest a chamber body, at least one support member coupled to an interior portion of the chamber body, and one or more balls disposed on the support member and rotatably adapted to support the substrate, no reference may be combined with any other combination of references to yield the subject matter of claim 8. Therefore, the combination of *Okayama*, *Durham*, *Tokyo Electron*, and *Suzuki* does not teach or suggest the limitations of claim 8, as amended, and all claims depending therefrom.

Thus, the Applicants submit that independent claim 8 and claims 9-11 and 17-21 depending therefrom are patentable over *Okayama* in view of *Durham*, *Tokyo Electron*, and *Suzuki*. Accordingly, the Applicants respectfully request the rejection be withdrawn.

NEW CLAIMS

New claims 47-58 have been added. The Applicants believe that claims 47-58 are fully supported by the specification and that no new matter has been entered.

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Claims 52-58 depend from claim 8 and are, therefore, allowable for the reasons discussed above. The Applicants submit that independent Claim 47 and claims 48-51 depending therefrom, are also allowable for the reasons discussed above. Thus, the Applicants respectfully request allowance of these claims.

CONCLUSION

Thus, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dec 24, 2003
Keith P. TABOADA
Attorney Reg. No. 45,150
(732) 530-9404Moser, Patterson & Sheridan, LLP
595 Shrewsbury Avenue
Suite 100
Shrewsbury, NJ 07702**CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence is being transmitted by facsimile under 37 C.F.R. §1.8 on Dec 24, 2003 and is addressed to Mail Stop NsFax, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Facsimile No: (703) 872-9306.


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